

EVALUATION OF THE SCALE AND DYNAMICS OF CHANGES IN EFFECTIVE HOUSING DEMAND AND HOUSING CONSTRUCTION IN RUSSIA¹

1. Introduction

The strategic goal of the accessible housing market development in Russia is dual: to create a high-performance market-oriented housing sector capable of meeting the housing needs of the majority of households in accordance with their effective demand, and to suggest mechanisms of state participation in development and operation of this market, in general, and increasing access to it for population groups that are in need of assistance, in particular.

At this time, the general legal basis for mortgage lending development has already been established. Now, further improvement of the legislative framework is in progress. In particular, the suggested reforms are expected to improve the efficiency of the housing mortgage market and thus the housing affordability of the population.

A package of bills (27) suggested by reformers will reduce interest rates as a consequence of lower credit risks, lessen the cost and increase the volume of resources attracted for home lending purposes, and minimize loan servicing and transaction costs.

A top-priority goal of the current socioeconomic development is the creation of an accessible housing market by way of (a) enhancement of effective household demand for housing as a result of successful implementation of mortgage lending programs, and (b) an increase in residential building volume. Making projections of future developments in residential construction and housing markets generally, and households' capacity to buy homes, in particular, is a good way to orient the activities of the construction and banking sectors and evaluating households' prospects to improve their living conditions.

The work reported here was undertaken in an effort to assess and describe predicted changes in the level of effective household demand for dwellings and housing loans and simultaneously to estimate the market capacity to supply housing units and loans and to build new residential property to meet this demand. The projections cover the period from 2004 to 2010.

In preparing the predictions based on original surveys and analyses undertaken for the project, the team has also extensively used a variety of other expert opinions and studies on trends in the development of the housing lending market, the housing supply outlook, and residential construction prospects.

For the purposes of this report the following terms and concepts were used:

Housing market size (volume) – total volume of dwellings sold on the primary and secondary housing markets and on the residential construction market as well (in million sq. m, or RUR billions)

¹ The authors are at the Institute for Urban Economics in Moscow. They are, respectively, Nadezhda Kosareva, Natalia Rogozhina, Andrey Tumanov, Mikhail Yakoubov.

The project was implemented by the workgroup on development of an accessible housing market formed by the Center for Strategic Research. *Vneshtorgbank* Bank was the customer for the project, and Institute for Urban Economics (IUE) was the main contractor working in partnership with the Research Center of the Russian Marketing Association (RMA Research Center), the Center for Information and Economic Research in Construction Industry, the *Development Center* Economic Research Foundation, the Agency for Housing Mortgage Lending (AHML), and the AN SAVA Joint-Stock Company.

Households' desire for housing – households' need to improve housing conditions estimated by conducting household surveys

Housing demand – willingness of households who have enough savings and income, including a mortgage loan, to buy the desired dwelling at the current price.

Satisfied housing demand – actual volume of dwellings sold from the total amount of dwellings offered on the housing market (in million sq. m, or RUR billions).

Housing (housing construction) loan demand – total expressed desire for loans demonstrated by households who have enough savings and income to raise a loan on current terms in order to purchase a home at current price.

Satisfied housing (housing construction) loan demand – actual volume of housing (housing construction) loans extended to households, taking into account of banks' limits and underwriting criteria.

Social housing – dwellings built at the expense of government budgets and provided for social rent to particular population groups.

In order to take into account macroeconomic factors when preparing scenarios of the housing and loan demand and supply behavior, estimates of the RF Ministry for Economic Development were used (*Macroeconomic Indicators of Possible Economic Development in 2003 – 2006 and till 2020*).

Predictive estimates were prepared for the following four development scenarios:

		Residential construction output	
		Min	Max
Residential lending output	Min	1. Inert development	3. Construction growth
	Max	4. Development of mortgage market	2. Implementation of all reforms

- 1) Inert development. This is a scenario of residential construction development based on current and anticipated limitations (lack of engineering infrastructure and building materials, administrative barriers) and limited production of home loans for households.
- 2) Implementation of all reforms--reforms aimed at the development of a mortgage market for households willing to buy or construct a home and construction finance for residential developers, plus reforms in the residential construction sector). Reforms will bring the housing construction market to its maximum level with the simultaneous maximum development of housing lending and mortgage securities markets, assuming all factors that are now restricting the growth of housing construction and mortgage lending are removed.
- 3) Construction growth. The housing construction market reaches its maximum while the market for retail housing lending remains limited.

- 4) Development of mortgage market. The development of the housing construction market remains inert while the mortgage lending market is maximally developed with the mortgage securities market still in the process of development.

2. Concept of accessible housing market development

Upon careful investigation and consideration of the key factors impeding the successful development of the housing and residential construction markets, and a review of already presented and recently suggested legislative initiatives of the federal government and State Duma to address these problems, an inventory was made of the laws and regulations whose enactment would have a strong positive influence on the development of accessible housing market in Russia.

These initiatives are a result of the joint efforts of the Presidential Administration, Russian Federation government, State Duma, expert institutions such as Strategic Development Center, Institute for Urban Economics, and other experts including businesses.

The main purpose of these legislative proposals is to create a favorable legal environment for the accessible housing market development through:

- establishment of the institution of long-term housing loans for households (to help them to buy a home, to participate in a multifamily building construction, to construct a single-family house, etc.);
- encouragement of housing production growth through the introduction of the practice of open competitive awarding of land titles to developers, simplification of procedures for approval and examination of town planning and design documents, provision of debt finance to developers of housing construction projects, use of transparent and efficient procedures for municipal infrastructure finance, and other remedies;
- improvement of housing market performance by way of reduction in administrative barriers and transaction costs, better protection of interests of individual bona fide purchasers of housing, establishment of an efficient regime of taxation for all market participants in order to improve the market transparency and institutional framework.

The first, basic part a package of bills is the Housing Code. This document sets forth the main principles of housing policy, defines the category of low-income citizens, which is entitled to receive free social housing under a social rent agreement. This means that all other population categories can improve their living conditions by acquisition or construction of housing on the market, including the possibility of some form of support from the state.

The second block of draft laws deals with the development of various forms of housing finance, in order to support and augment the household demand beyond the level possible using only their current income.

The draft laws provide for the development of residential mortgage lending within banking institutions, as well as for the development of other forms of housing financing: housing savings programs and “share participation in construction”. The objective is to make these projects and programs more transparent and less risky for the population.

The measures proposed for the development of mortgage lending are aimed at strengthening the mortgagee’s rights. High risks of mortgage lending are one of the main reasons for extremely high interest rates.

Proposed amendments to the Code of Civil Procedure are aimed at ensuring the possibility of foreclosure on any housing mortgage loan, if it represents a mortgage property securing the repayment of a special-purpose housing loan.

Amendments to the Code of Civil Procedure should also help eliminate unnecessary barriers to the development of housing and mortgage market--some of which in good faith to protect housing rights of citizens. The proposed amendments provide for the cancellation of the requirement to obtain obligatory authorization for housing market transactions from guardianship and trusteeship authorities, preserving this requirement only for parents who have lost their parental rights or have limited parental rights. They also provide for the termination of the right of the members of the former owner's family to use the housing after it was sold and other amendments.

It is proposed to introduce corresponding amendments to the Law "On Mortgage" as well, based on the practice of lending and other organizations, in order to make the mortgage instrument more precise and to strengthen the position of lenders.

The same block includes draft laws dealing with creating the conditions for attracting long-term investment from financial markets to the mortgage lending sector by means of issuing mortgage securities. It is proposed to make changes to the Law "On Mortgage Securities" itself, as well as parallel changes to the Civil Code and the Law "On Bankruptcy of Lending Institutions", in order to ensure the reliability of bonds. The objective is to permit the issuance of bonds by lending institutions directly and to expand the range and possible forms and mechanisms of the mortgage securities emission. It is proposed to give the banks the possibility to issue mortgage securities independently and to ensure the reliability of these securities by excluding the mortgage coverage, which serves as collateral for these securities from bankruptcy assets.

The same block includes draft laws dealing with the development of the new mortgage market infrastructure – credit bureaus and mortgage risk insurance.

The third block of draft laws addresses the creation of conditions to improve the efficiency of housing construction. In order to increase the volume of housing construction, it is necessary to create a transparent and predictable environment in the housing construction market, create conditions for the development of competition in this sector, lower administrative barriers in the way of acquiring land plots and ensure the provision of utility infrastructure to them. Today, unfortunately, the shortage of serviced sites is the main factor limiting the development of housing construction.

This block of draft laws also includes the draft of Town Planning Code. The main idea of this law is to present developers and investors with transparent plans for municipal territory development, determined with citizen participation, and to express these plans in town-planning and legal regulations, which would have legal effect for investors. In this case, investors would not have to go through a senseless series of numerous approvals regarding the use of each specific land plot.

The fourth block deals with housing market transactions, strengthening the guaranties for the rights of bona fide purchasers, and lowering financial and time costs of transactions. There is a proposal to cancel notarization of mortgage agreements, which seems to be an excessive, duplicative function, present where the state system of registration of rights is developing and improving. It is proposed to strengthen the guaranty principles of the system of state registration of rights, and to amend the Civil Code in order to protect bona fide purchasers and increase their

rights. Also, it is proposed to turn the registration system into a source of reliable data, that can be fully trusted by market participants.

Finally, there is a law on real estate cadastre, which is currently at the development stage. This law should create a unified real estate cadastre that will simplify these activities.

The last block addresses tax laws. It is aimed at promoting the development of accessible housing market, and the use of more efficient instruments and institutions in this market, that would enable citizens to purchase and construct housing with minimum risks and at minimum cost.

The proposed package of draft laws is expected to create real mechanisms for improving housing conditions of the main portion of working population, i.e., those with average incomes.

3. Households' desire for better housing

Households' satisfaction with housing conditions and want of better housing

The household survey² has demonstrated that at the end of 2003 39 percent of households were satisfied with their housing conditions, but that the other 61 percent wanted to improve them.

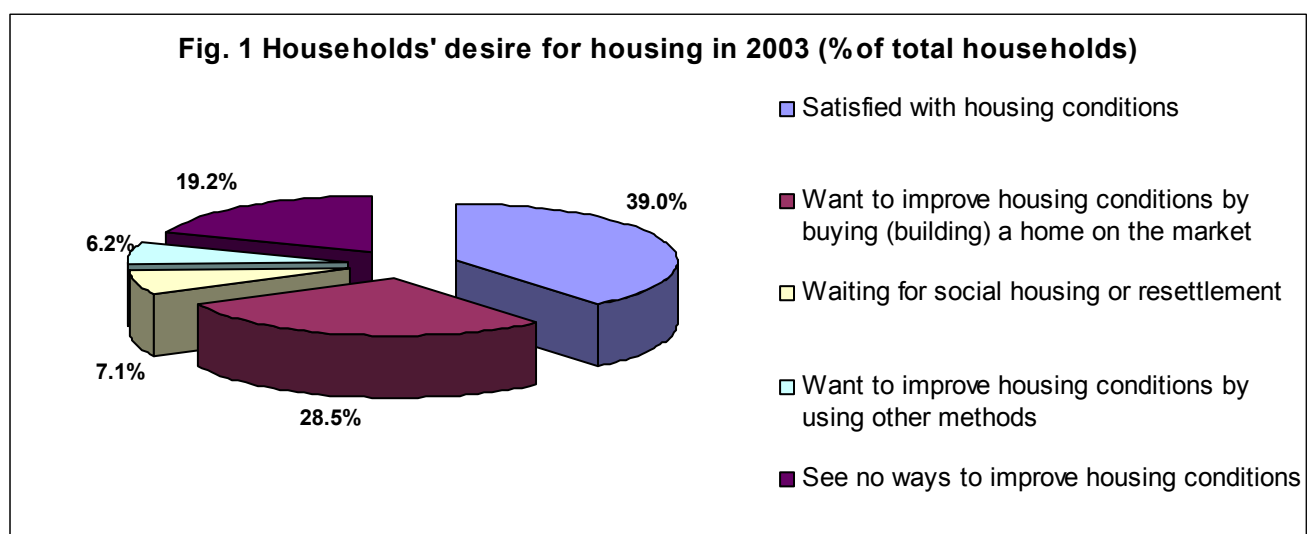
The survey conducted in selected Russian cities suggests breaking down the respondents into three groups according to the level of their satisfaction with housing conditions:

- Highly satisfied (above 48 percent of households) – Kaliningrad, Kazan, Samara, Vladivostok, Saint-Petersburg;
- Rather satisfied (35 – 46 percent of households) – Krasnodar, Moscow Oblast, Yekaterinburg, Moscow;
- Hardly satisfied (less than 25 percent of households) – Novosibirsk.

Households that want to improve their housing conditions (100 %) may be grouped as follows:

- 46.8 percent of households want to buy or build a home;
- 21.7 percent of households plan to obtain a better home in other ways (inherit, rent, etc.) including 11 percent of households registered on housing waiting lists or living in shared multifamily apartments who therefore are subject to resettlement;
- 31.5 percent of households believing that they have no chances to improve their housing conditions.

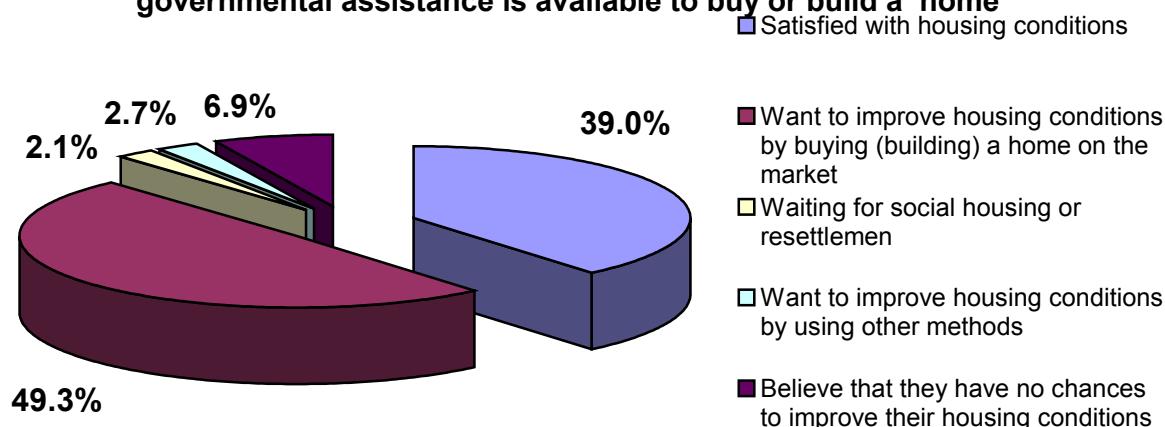
² The household survey was conducted by the RMA Research Center in December 2003 – January 2004. The said goals were achieved by way of conducting a household survey with the sample representing households of Russia, 9 selected cities and Moscow Oblast. The survey instrument was interviews with heads of households made at the place of their residence. The implemented sample size was 3,000 respondents across Russia, and 400 respondents in each city. The sample was multistage and stratified. Totally the survey covered 255 urban settlements and rural districts.



From the chart above is evident that 39 percent of households are satisfied with their housing conditions; 34.7 percent are ready to improve their housing conditions themselves (28.5 percent are ready to buy or build a home, and 6.2 percent plan to inherit, rent, swap, etc.); 26.3 percent seek government assistance including 7.1 percent are registered on a waiting list or subject to resettlement (Fig. 1).

The structure of households' preferences among ways to solve their housing problems will change once partial governmental assistance is taken into account. This factor increases substantially the group of households inclined to enter the market in order to buy or build a home – from 28.5 to 49.3 percent, or in 1.7 times. 2.1 percent will be waiting for social housing or resettlement, 2.7 percent want to improve housing conditions by using other methods and 6.9 percentage points think they have no chances to live in a better home (Fig. 2).

Fig. 2. Households' desire for housing in 2003 when partial governmental assistance is available to buy or build a home



Over 30 percent of households in Novosibirsk, Yekaterinburg, Moscow and Krasnodar would like to buy (build) a home; in Vladivostok, Saint-Petersburg, Moscow Oblast and Kazan such households account for nearly 20 percent, and in Samara and Kaliningrad - for less than 13 percent.

Particularly high hopes for obtaining social housing (based on waiting lists or resettlement procedures) are registered in Novosibirsk (8.5%), Samara (9.8%), and Moscow Oblast (11.2%). In Krasnodar, Kaliningrad and Vladivostok this group of households is less than 2.5 percent of the total.

The survey indicators showing the percentage of households that consider improvement of their housing conditions impossible, generally, are compatible with the national statistics. They range from 12.2 percent in Kaliningrad to 19.5 percent in Moscow Oblast except Novosibirsk where this indicator comes to 27 percent.

Even after the government assistance where home purchases or bank loans for households are partially subsidized, the segment of households seeking for social housing still remains large, more than 15 percent, in Moscow Oblast, Saint-Petersburg and Yekaterinburg. In Samara, Moscow, Vladivostok, Novosibirsk, Kaliningrad and Kazan, the figure ranges from 6 to 11 percent, and only in Krasnodar does it fall to 3.5 percent.

The survey also investigated households' satisfaction with the physical condition of property they occupied. Little more than half of respondents was satisfied with the property condition, while the rest evaluated it as bad or very bad--21 and 6 percent of respondents, respectively.

The survey makes it possible to conclude that Russian households' total desired housing amounts to 1,569.8 million sq. m, or 17,767.5 billion RUR in terms of value (2003 prices). Considering that to some extent this desire can be satisfied on the secondary market (existing housing), the need for newly constructed housing totals 1,291 million sq. m. (14,612.6 billion RUR in 2003 real terms). This means that the housing construction market is expected to produce new homes in total volume equivalent 46.1 percent of the existing housing stock, which now stands at 2.8 billion sq. m.

Household demand for housing and housing preferences

The demand for housing contingent on the desire of those households capable of buying a home at current prices, including purchases using a loan, is 378.6 million sq. m., or 4,285.9 billion RUR in 2003 real terms. In other words, this accounts for 25 percent of households' total desired housing. It is important to note that the survey did not take into account the existing constraints in the availability of home purchase loans and housing supply in the market.

On the other hand, housing demand for 2004 alone (based on households' plans to improve housing conditions in this year) makes up 1,682.4 billion RUR, or 148.6 million sq. m.

During the period covered by the report, only 5.3 percent of respondents that wanted better housing had enough savings to buy a wanted home at current prices, and another 15 percent could do so by taking a loan to cover their savings deficit. So, in effect, 20.3 percent of households wanting better housing (or 12.4 percent of all households) can purchase a home out of their own or borrowed funds.

The survey documents evidences that in Kaliningrad 40 percent of households wanting better housing have enough savings to buy a home. In Vladivostok, such families account for 15 percent, and in Moscow Oblast there are none. The rest of the survey cities have this indicator ranging from 5 to 10 percent.

For households, the purchase of fully completed residential units on the primary or secondary market is the most preferred way to solve their housing problems. The preference for this method was given by 35.3 percent of households that want to improve their housing conditions, or 21.5 percent of total households. The option to participate in the housing construction is less preferred: only 11.5 percent of households from those wanting to improve their housing conditions, or 7 percent of total households, expressed their readiness to use this option. The rest prefer to wait for social housing or resettlement, or to inherit, lease a unit from private owners or exchange units. Otherwise they just see no ways to improve their housing conditions.

In Krasnodar, 17.8 percent of households among those wanting better housing choose the construction option, while Moscow has only 3.5 percent of such households. In, Vladivostok, Kaliningrad and Saint-Petersburg they account for 4 – 5 percent of households.

From the survey we also learned that 20.6 percent of households among those who can buy fully completed units would like to do that on the primary market; 30.3 percent on the secondary market, and 49.1 percent on either. Thus, the survey has brought to light important differences between the structure of households' housing preferences and the structure of the housing market supply. Regardless of households' preference to purchase fully completed units, this type of housing accounts for mere 10 percent of the primary market supply, because building companies

have the practice of selling units before completion, thus shifting most of its risks on households.

The survey also revealed that almost 3 percent of total households choose the option of individual home construction, and 15 percent prefer to buy completed individual houses. According to state statistics, currently almost 42 percent of construction projects are individual houses. This clearly suggests a conclusion that in view of inadequate supply of fully completed units on the primary market, households have nothing to do but to construct individual homes themselves.

Favored financial schemes for home purchase and the demand for home loans

According to the survey results, only 19.4 percent of respondents are going to improve their housing conditions by purchasing or building housing units only at the own expense.

To study most favorable models of home purchase finance the selection of respondents was made under the following criteria: the minimum income (at least 15,000 RUR per month in Moscow, and at least 6,000 RUR per month in the rest of the cities); age (21 – 50 year old) criteria; willing to buy or construct a home either at their own expense or with partial assistance of the government. The households meeting these criteria made up 17.1 percent of the total number of respondents. These respondents were asked to choose from the suggested variety of financial mechanisms the one they would prefer to use to attain this goal. Their preferences distributed as follows:

- 51.9 % chose the option to raise a mortgage loan in order to buy a ready-made unit;
- 9.2 % chose the saving scheme of finance;
- 6.3 % were ready to raise a loan for individual housing construction;
- 5.9 % – to use a loan for shared participation in construction of a multifamily building,
- 11.2 % did not like any of the suggested mechanisms, and
- 9.8 % gave no answer.

Only 38 percent of Moscow and Moscow Oblast respondents meeting the income and age criteria and stating their will to purchase or built a home would rather use a mortgage loan to do that. 20 percent of respondents did not like to use any of the suggested mechanisms.

In Krasnodar and Novosibirsk, 72.5 and 65.5 percent of respondents, respectively, showed their will to purchase a home on mortgage loan.

Kaliningrad had the highest percentage of respondents belonging to the category refusing to use any of the suggested mechanisms (25.9 percent). Moreover, none of respondents reported to be willing to participate in construction of multifamily residential property.

The total demand for home loans provided on loan terms effective in 2003 is estimated as coming to 1.1 trillion RUR (in 2003 real prices). The expected demand for home loans in 2004 (based on those planning to improve housing conditions in 2004) is estimated at 124 billion RUR (in prices and on loan terms of 2003). When partial governmental assistance is available, the figure increased by 15 billion RUR to reach 139 billion RUR.

Respondents from the group of those who wanted to improve their housing conditions but lacking savings to do so, were asked to explain reasons of their refusal to take a loan, 80 percent spoke about financial difficulties they might have in repaying the loan, and 9 percent spoke about the lack of confidence in banks.

Respondents in Kaliningrad and Novosibirsk had the greatest confidence in banks as compared to other cities (respectively, only 3.1 and 3.7 percent of households who wanted to improve their housing conditions but were lacking savings to do so and refused to raise a loan, spoke about the lack of confidence in banks as the main reason of their refusal. The largest values for this indicator were registered in Vladivostok (19.2%), Krasnodar (18.8%), Yekaterinburg (16.7%) and Moscow Oblast (13.5%). In Moscow it was 11.8 percent.

4. Evaluation of the development potential of the residential construction sector

Housing production outlook and evaluation of housing producers' capacity to increase the supply of housing to the market

Augmentation of the housing production plays a key role in the development of an accessible housing market.

In an effort to evaluate the likelihood of increasing housing production and obstacles impeding this increase a survey was conducted among regional and municipal administrations and buildings companies³. The survey covered 85 regions (subjects) of the Russian Federation, 152 municipalities and 45 building companies.

To prepare predictions two scenarios of the development of the residential construction industry were evaluated based on regional and municipal estimations of the possible growth of the housing production output:

1. assuming continuation of the current situation in the housing construction and home lending industries;
2. assuming increased output in response to growing effective demand for housing.

According to regional and municipal estimates, in the seven years ahead (till 2010) with the current situation in the housing construction and home lending industries remaining the same, housing production will grow from 36 million sq. m. in 2003 to 53 million sq. m. in 2010, i.e. a growth rate of 5- 6 percent a year. If the effective demand for housing starts growing due to the development of mortgage lending, housing production may reach, according to regional and municipal estimates, the level of 72 million sq. m in 2010, i. e. a growth rate of 10 percent a year. Even so, these growth rates still will fall behind the anticipated growth of the demand for housing.

Many cities (Saint-Petersburg, Novosibirsk, Kaliningrad) have a much more pessimistic outlook of the impact of increasing effective housing demand will have on housing production. These cities stick only to one scenario of industry development and do not see opportunities to increase the housing production.

Building companies operating on the Russian housing market are expected to be capable of producing 53.4 million sq. m. annually (potential facility), which almost meets the 2010 target suggested by the first scenario. The amount of funds needed to engage the full production capacity is expected to come to 299 billion RUR (in 2003 real terms). The increase in the housing production to 72 million sq. m. in 2010 suggested by the second scenario will require an increase in the building industry's capacity of 36 percent.

³ The survey was conducted by Center for Information, Technical, Economic and Marketing Research in the Construction Industry (VNIIESM) in December 2003 – January 2004.

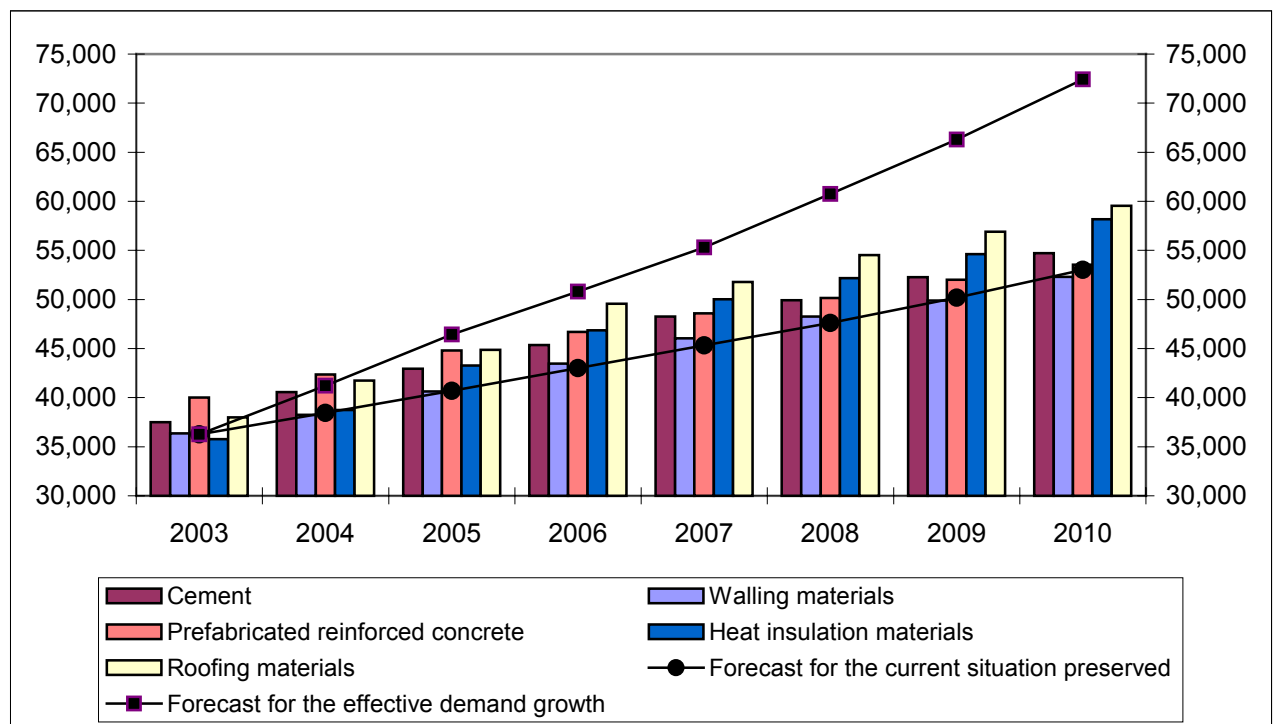
Evaluation of the capacity of building materials producers to satisfy housing construction needs

Data on anticipated rates of production of the main types of buildings materials was obtained from forms that regional and municipal executives were asked to fill out as part of the survey on the current situation in the residential construction sector.

Under the first scenario suggesting no changes in the situation, the production capacity of the building materials industry will not be a constraint for anticipated growth of residential construction. But if the housing production starts growing in response to the growing effective demand, the projected production of certain types of building materials (cement, walling and heat insulation materials) may turn out to be inadequate already in 2004.

An overview of potential capacity of building materials producers indicates that in the next seven years a deficit is likely only in cement, walling and heat insulation materials, while the capacity of producers of roofing materials and reinforced concrete will be quite enough to fulfill even the most optimistic regional and municipal forecasts of residential construction. However, it is essential to note that the production of building materials may be rapidly increased if necessary, and therefore these capacity constraints are unlikely to be binding even without increased material imports.

Fig. 3 Evaluation of the balance between anticipated housing and building materials production rates (thou sq. m)



Evaluation of availability of land plots and opportunities to service them for residential construction

During the survey of municipal officials opinions about the situation in housing construction, they were also asked to evaluate the availability of vacant land plots that could be allocated for residential construction purposes and opportunities to service them (furnish them with all necessary engineering infrastructure).

The evaluation of municipal infrastructure constraints has shown that available and planned development of infrastructure facilities and nets will suffice only to fulfill minimal housing construction plans.

In Novosibirsk, if the situation remains the same, the deficit of infrastructure facilities and nets will permit to housing production only at 60 percent of the planned levels. For the rest of the cities this indicator is higher. However, in case of need for expanded housing production as a result of increased effective demand, almost all cities will meet infrastructure constraints.

But residential construction growth will be restricted already in 2004 by limited municipal infrastructure capacities if the effective demand for housing starts growing. This restriction may become very serious for all municipalities and regions. Moreover, in the case of the maximum anticipated growth of housing production, coverage of municipal engineering infrastructure will range from 94.2 percent in 2004 to 77.1 percent in 2010.

Prospects for the development of loan financing for housing developers

The building community believes that the limited access to sources of housing construction finance, including bank lending, is one of the key issues of the day. Presently, households' savings accounts for 40 percent of the housing construction investments at the early stage of construction and comes to 80 percent at the closing stage, while loans to developers account for no more than 20 percent of the construction costs.

The survey conducted among banks⁴ found that bankers plan to loans to residential developers at rates much slower than loans to households. So, they expect to increase loan financing for developers in 2004 – 2005, on average, by 18 – 20 percent per year, compared with a 2 times increase in the mortgage lending to households. In 2006 – 2008, the increase in loan financing to residential developers will average 14 – 17 percent per year, and in 2009 – 2010 – 5-10 percent. In 2010, under these conditions, they will provide loans to developers not exceeding 15 percent of what they need.

However, experts believe that beginning in 2006 – 2007 banks will have the potential to make loans to meet developers' needs. But to stimulate banks to utilize this potential, it is necessary to create conditions for improving reliability and attractiveness of this type of lending.

Evaluation of the likelihood of the residential construction growth in response to removal of administrative barriers and solution of other sector-related problems

An evaluation of the housing construction sector's problems was performed on the basis of survey data collected from 45 large building companies operating in the Russian residential construction market.

Housing producers supported the assumptions about the low availability of credit and other sources of finance, the inadequacy of effective demand for housing, and the shortage of serviced land plots. But most of all they were concerned about the very troublesome process for the collection of necessary construction approvals and permits, and least of all about taxes and building materials supply.

With the abovementioned obstacles removed, building companies are ready to secure, on average, a 30 percent growth in the housing production.

This implies that increasing housing production requires not only the development of housing mortgage, construction, and municipal infrastructure finance, but also removal of administrative barriers in the residential construction sector.

⁴ The survey among banks was conducted by RMA Research Center in December 2003 – January 2004. The survey covered 86 banks including 3-5 banks from each selected cities and Moscow Oblast.

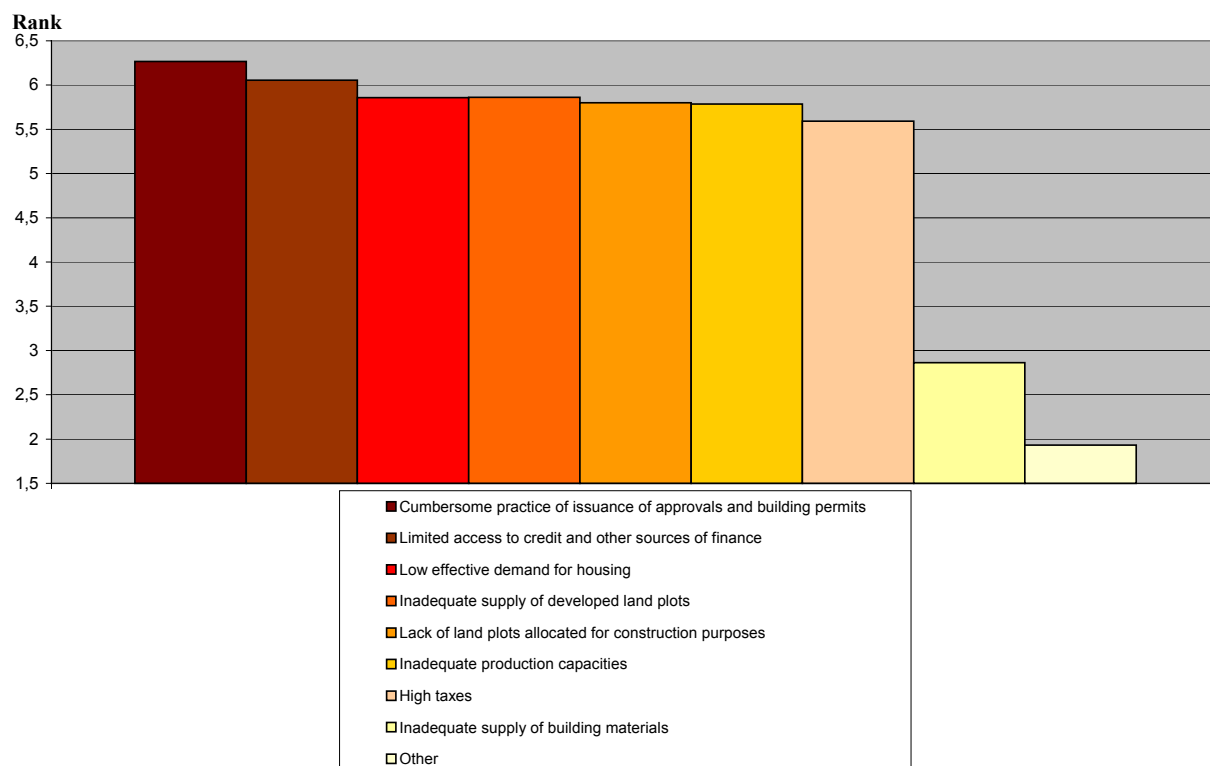
Certain cities (Yaroslavl, Yekaterinburg, Kaliningrad) are distinguished by particularly cumbersome practices of the issuance of building approvals and permits. As a result, the total length of the project's preliminary stage, from the date of application to the date of issuance of a building permit, averages to 18 calendar months in Kaliningrad, and 20 calendar months in Yekaterinburg, as compared to the national average of 8 months.

Yaroslavl has the longest preliminary stage, 24 months, and the shortest – a calendar quarter – is in Saransk. Yekaterinburg takes the lead according to the number of agencies involved in the approval process, from the date of application to the date of land allocation, where there are 30; the smallest number was recorded in Krasnoyarsk, where building documents are approved by just 5 agencies.

Building companies believe that, first of all, efforts should be taken to improve the current practice of issuance of approvals and, in particular, to limit the number of agencies involved in the expert examination and approval process. Additionally, the time each needs to perform its functions should be cut. Next in order of priority, in their opinion, is the provision of adequate supply of serviced land plots, which once again shows the importance of adequate development of municipal engineering infrastructure in accordance with residential construction needs. This implies both the facilitation of connection procedures and construction of new infrastructure facilities and nets.

Next in importance is the task of securing open and transparent information about permitted use types for urban real property. Approximately equal importance was attached by respondents to the problems of the organization of land sales and auctions and the establishment of the rules according to which developer's land rights are registered before the start of project design works and issuance of a building permit. Data on the responses of the 45 large building companies gave to the question about most serious impediments to the growth of residential construction are shown in Fig. 4 (respondents were asked to rank current obstacles according to their priority from 1 to 9).

Fig. 4. Main impediments to the residential construction growth



5. Evaluation of the banking sector's capacity to expand mortgage lending to households

One factor reducing the households' chances to improve their housing conditions is the inadequate development of mortgage lending. The evaluation of the banks' prospects to expand this area of operations was conducted using several methods:

- a survey of Russian banks⁵,
- forecasts of the banking sector's development⁶,
- estimation of banks' capacity to provide home loans, and
- examination of expert opinions about prospects for the mortgage securities market development⁷.

Prospects for the development of mortgage lending to households

The survey revealed rather conservative estimates by the banks of the prospects for retail home lending. 89 percent of the respondent banks spoke about the improvement of the foreclosure and defaulter eviction procedures as the top priority task, the fulfillment of which might substantially accelerate the development of the mortgage lending market.

Next in the order of priority, according to them, is the problem of deficiency of long-term financial resources and inability of households to document their incomes: more than 85 percent mentioned these factors as major hindrances of the mortgage lending development.

⁵ The questionnaire survey of banks was conducted by RMA Research Center in December 2003 – January 2004. The survey covered 86 banks including 3-5 banks from each selected cities and Moscow Oblast.

⁶ The predictive modeling was performed by *Development Center* Economic Research Foundation.

⁷ This examination was performed by the Agency for Housing Mortgage Lending.

There are differences in prioritization of mortgage development impediments by banks depending on the size of their assets. Larger banks are mostly concerned about high risks of the home lending, lack of the clear mortgage market regulation, and foreclosure difficulties.

For mid-size banks the top-priority problem is the lack of long-term financial resources and funds required to cover administrative costs of mortgage lending services. Additionally, banks explain their reluctance to enter the mortgage lending market by imbalance between the rather low profitability and high risks of these operations, very difficult and lengthy registration procedures, and the high cost of notary and registration services.

In 2003, the volume of home loans extended by banks totaled 10.5 billion RUR. Nevertheless, despite an impressive growth rate in mortgage lending in the recent period, the forecasted household demand for mortgage loans remains 10 times greater than the current volume of supply. Banks still do not rush to increase their mortgage lending operations. Retrospectively, their mortgage lending capacity volume is estimated at 62 billion RUR in 2003 real terms.

According to estimates made in the course of the survey, the Moscow contribution to the total mortgage loans extended across Russia in 2003 accounted for 59.4 percent. 6.7 percent falls on Moscow Oblast, 4.6 percent – on Saint-Petersburg, and 4.4 percent – on Samara. Yekaterinburg was responsible for 1.3 percent, and the rest of the cities – for less than 1 percent of the total volume of loans extended in these cities. For example, in Kaliningrad this indicator was 0.1 percent.

The bank survey revealed notable differences in their estimates of the future housing lending growth rates. According to banks, the maximum growth rate may be achieved at the level of:

- 1.8 – 2.2 times in a year – in 2004 – 2006, and
- 1.4 – 1.5 times in a year – in 2007 – 2010.

The minimum growth rates are estimated by them just as low 10 - 20 percent per year.

Based on forecasts of banking sector development and regulatory limitations of their operations, the *potential capacity* of banks to provide mortgage loans in 2010 is estimated as ranging from 282 to 293 billion RUR (in 2003 prices), which will account for more than 5 percent of their credit portfolio.

The supply of mortgage loans suggested by banks, even according to their maximum estimates, will still be below their potential capacity throughout the whole forecasting period. Banks are planning to reach the maximum: 274 billion RUR (in 2003 prices) only in 2010, which in fact will account for 94 – 97 percent of their estimated potential capacity to provide mortgage loans. According to minimum estimates provided by the banks, the mortgage lending growth rate will be lower, so that the volume of loans expected to be provided in 2010 will be only 50 billion RUR (in 2003 prices). This is an illustration of the rather conservative approach banks take to housing mortgage lending, with present-day conditions in mind, and their expectations for a better legal and regulatory environment for housing mortgage lending.

Development of the mortgage securities market

The development of the mortgage securities market will increase the financial resources banks have to provide mortgage loans and satisfy almost in full the households' demand for them yet in 2007. This will help increase the potential supply of home loans in 2010 from 274 billion RUR, as is now estimated by banks' as the maximum level, to 742 billion RUR (in 2003 prices).

According to expert expectations, the volume of mortgage securities issued by banks may reach the level of approximately 396 billion RUR (in 2003 prices), if a favorable legal and regulatory environment is established for this market. This estimation was made taking into account banks'

lack of expressed interest in issuing mortgage securities: only 25 percent of respondent banks stated any possibility of issuing mortgage securities.

The potential capacity of the mortgage securities market (investors' capacities to buy mortgage securities) for the period of 2004 - 2010 is estimated at 2.2 trillion RUR (in 2003 real terms). With the mortgage securities market developed, the interest of investors (banks, RF Pension Fund, financial and insurance companies, etc.) in this financial instrument will grow.

The anticipated volume of mortgages that will be purchased by the Agency for Housing Mortgage Lending ranges from 3 billion RUR in 2004 to 109 billion RUR in 2010 (in corresponding year prices).

So, with the mortgage lending levels suggested by banks, the household demand for home loans, in case of implementation of the inertial scenario, will be to a large extent limited by the inadequate supply of home loans: banks will be able to satisfy just 39 percent even in 2010. However, with all necessary reforms implemented and the mortgage securities market created, the demand for home loans may be fully satisfied starting as early as 2007. This means that there is the possibility to increase the rate of mortgage lending in 2010 to 344 billion RUR (in 2003 prices).

6. Estimates of housing market demand and supply (based on simulation results)

During preparation of forecasts for 2004 – 2010, the evaluation of the effective demand for housing units and mortgage loans was made, and the factors capable to affect it were identified and measured. Additional efforts were taken the capacity of the housing and residential construction markets to respond adequately to the housing demand growth.

Below are presented the estimates made for the inert scenario and the scenario with all reforms implemented.

**Table 1. Basic performance of the housing market in 2004 – 2010 under the inert scenario
(in corresponding year prices)**

Indicators	Unit	Period						
		2004	2005	2006	2007	2008	2009	2010
Housing market and housing prices								
1. Housing market capacity	m ² , mln	39.9	45.4	47.3	50.5	51.7	53.1	57.2
2. Housing prices (average for the primary and secondary markets)	RUR/m ²	14,448	16,773	20,538	24,405	28,910	34,023	39,703
Housing demand and supply								
3. Need for improvement of housing conditions	m ² , mln	1,271	1,314	1,357	1,432	1,505	1,596	1,720
	RUR, bln	17,127	18,649	22,280	28,596	35,688	44,653	56,129
4. Housing demand	RUR, bln.	966	1,456	2,079	3,042	4,059	4,572	6,018
Including unsatisfied demand	RUR, bln	672	939	1,416	2,230	3,049	3,396	4,477
5. Satisfied housing demand	RUR, bln	294	517	663	812	1,010	1,176	1,541
Without mortgage loans	RUR, bln	236	394	440	474	513	479	474
With mortgage loans	RUR, bln	58	123	222	338	497	698	1,067
Banking sector								
6. Demand for home loans	RUR, bln	332	433	585	779	923	951	1,069
7. Banks' supply of home loans	RUR, bln	30	60	108	151	212	296	415
Housing construction								
8. Housing construction output	m ² , mln	38.27	40.65	43.02	45.33	47.62	49.93	52.43
8.1. Housing completions offered for sale on the market	m ² , mln	32.11	34.13	36.13	38.07	39.99	41.89	43.93
8.2. Social Housing output	m ² , mln	6.16	6.52	6.89	7.26	7.63	8.04	8.5
Housing demand satisfaction								
9. Rate of satisfied housing demand	It.5 as % of It. 4	30.4%	35.5%	31.9%	26.7%	24.9%	25.7%	25.6%
10. Rate of households' home improvement								
10.1. Percentage of households wanting to improve housing conditions this year	%	1.5%	2.5%	3.1%	3.1%	3.4%	3.3%	3.7%
10.2. Percentage of households wanting to improve housing conditions this year and ready to do that by purchasing (building) a home	%	3.2%	5.2%	6.5%	6.7%	7.6%	7.6%	9.1%
11. Percentage of households with income adequate to buy a standard apartment on a mortgage loan ⁸	%	16.1%	21.4%	23.0%	22.9%	23.5%	24.3%	25.3%

⁸ It is assumed that a three-member family buys a standard apartment of 54 sq. m total space by raising a loan on the current lending terms. The income differentiation of households is presumed to remain unchanged

Table 2. Basic performance of the housing market in 2004 – 2010 under the all reforms completed scenario (in corresponding year prices)

Indicators	Unit	Period						
		2004	2005	2006	2007	2008	2009	2010
Housing market and housing prices								
1. Housing market capacity	m ² , mln	43.40	51.28	56.59	59.78	64.22	68.30	80.42
2. Housing prices (average for the primary and secondary markets)	RUR/m ²	14,448	18,770	26,162	28,807	31,515	33,506	35,421
Housing demand and supply								
3. Need for improvement of housing conditions	m ² , mln	1,271	1,307	1,347	1,411	1,474	1,553	1,661
	RUR, bln	17,127	18,569	24,764	36,040	41,375	47,471	53,508
4. Housing demand	RUR, bln	966	1,415	1,704	1,755	2,099	2,392	3,088
Including unsatisfied demand	RUR, bln	616	772	697	587	752	883	1,176
5. Satisfied housing demand	RUR, bln	350	643	1,007	1,168	1,347	1,509	1,912
Without mortgage loans	RUR, bln	247	346	369	344	485	667	536
With mortgage loans	RUR, bln	103	298	638	824	862	843	1,376
Banking sector								
6. Demand for home loans	RUR, bln	332	400	396	370	410	372	521
7. Banks' supply of home loans	RUR, bln	53	149	326	483	664	873	1,124
Housing construction								
8. Housing construction output	m ² , mln	41.23	46.43	50.80	55.29	60.74	66.30	72.44
8.1. Housing completions offered for sale on the market	m ² , mln	34.63	38.99	42.66	46.39	51.04	55.7	60.84
8.2. Social Housing output	m ² , mln	6.6	7.4	8.4	8.9	9.7	10.6	11.6
Housing demand satisfaction								
9. Rate of satisfied housing demand	It.5 as % of It. 4	36.2%	45.5%	59.1%	66.6%	64.2%	63.1%	61.9%
10. Rate of households' home improvement								
10.1. Percentage of households wanting to improve housing conditions this year	%	1.8%	2.8%	3.7%	4.3%	4.2%	4.0%	4.9%
10.2. Percentage of households wanting to improve housing conditions this year and ready to do that by purchasing (building) a home	%	3.8%	5.8%	7.8%	9.5%	9.7%	9.9%	12.8%
11. Percentage of households with income adequate to buy a standard apartment on a mortgage loan	%	16.1%	16.9%	14.3%	16.7%	20.0%	25.0%	30.5%

From the estimates it is clear that with all reforms implemented the satisfied demand, i.e. the demand supported by the adequate supply, will grow from 350 billion RUR in 2004 to 1.9 trillion RUR in 2010 (in corresponding year prices) totaled over the whole forecast period to 5.8 trillion RUR (in 2003 prices). So, from 2004 to 2010 the rate of satisfied demand will average 58 percent (36.2 percent in 2004 and 61.9 percent in 2010).

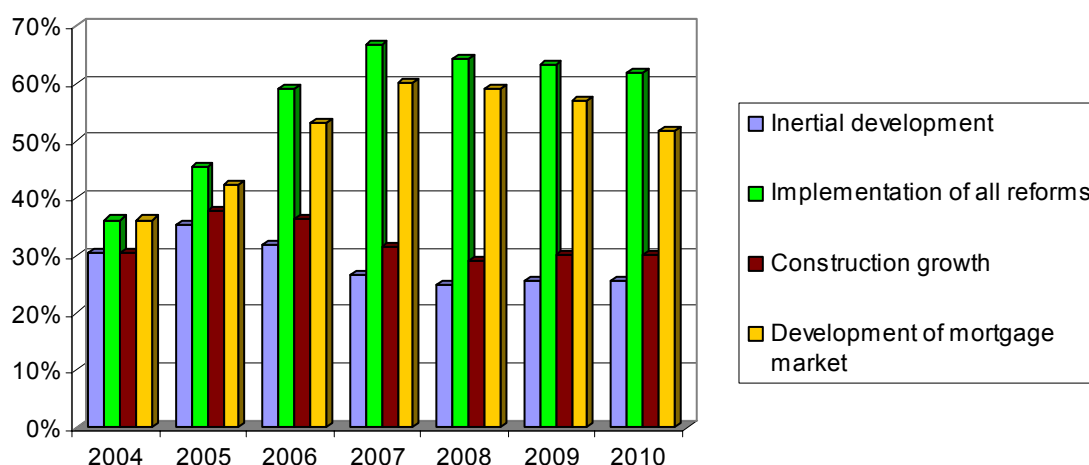
The inert scenario will permit satisfied demand increase to the level of 36 percent in 2005, after which, starting from 2006, it will keep declining to reach mere 25.6 percent in 2010. In total, over 2004 – 2010, the satisfied demand will be less than 24 percent and will make up 4.4 billion RUR (in 2003 prices). This may be attributed to two factors: first, the supply of home loans

suggested by banks is lower than the household demand; those households that fail to raise a loan will also fail to purchase a better home. Second, the supply of new housing suggested by the construction sector also turns out to be inadequate to satisfy the housing demand in full even with allowance for the limited home lending provided by banks.

The implementation of all reforms will increase the average rate of the housing demand satisfaction in 2004 – 2010 to more than 70 percent in all the cities and regions covered by the survey excluding Novosibirsk (below 27 percent) and Vladivostok (below 58 percent).

Under the inert development scenario this indicator will not go above 50 percent in the surveyed cities and regions.

Figure 5. Satisfied demand for housing (% of total demand for housing)



The housing demand remained unsatisfied during the current period should be unavoidably shifted to the next period. With the supply of housing units and loans remaining inadequate, only a certain portion of the housing demand can be satisfied annually. Further, in the situation of growing households' income this means that the unsatisfied demand will accrue, especially if the inert scenario is in effect. Under the inert scenario unsatisfied housing demand in 2010 will reach 2,477 billion RUR (in 2010 prices). With all reforms implemented it will make up 1,176 billion RUR (in 2010 prices).

In 2010, the satisfied housing demand will come (in 2010 prices):

- with the inert scenario of development – to 1,541 billion RUR including the demand for housing without loans at 474 billion RUR, and the demand for housing supported by loans – at 1,067 billion RUR;
- with all reforms implemented - to 1,912 billion RUR (the 25 % growth versus the inertial scenario) including the demand for housing without loans at 536 billion RUR, and the demand for housing supported by loans – at 1,376 billion RUR.

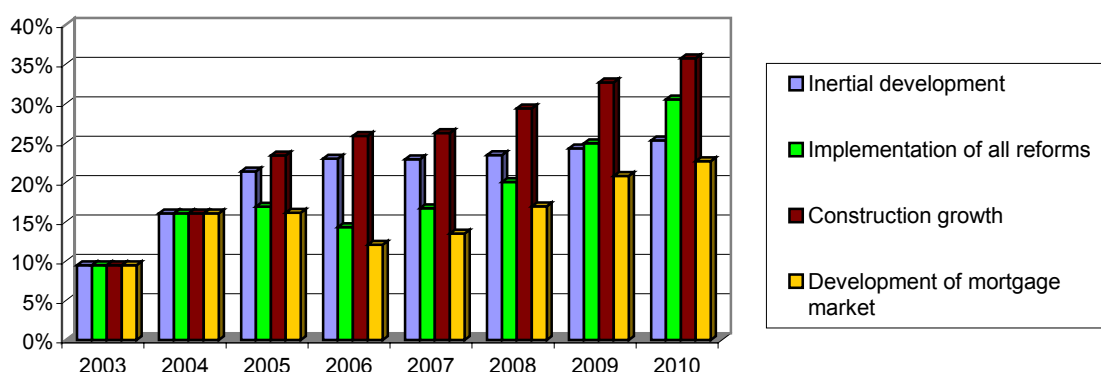
The all reforms implemented scenario supposes that the demand for home loans will be fully satisfied starting from 2007. Still, household demand for housing will remain limited due to inadequate housing production. To meet the housing demand in full, housing producers should in the first years (2005 – 2006) build 45 million square meters more housing than it is expected by the sector's development forecast.

On the other hand, if the housing production rate follows the forecast, full satisfaction of the housing demand in 2010 would then require additional growth in the housing production by 145 million sq. meters, or a surplus of 73 million sq. meters over the now-expected 72 million sq. meters.

Another factor significantly restraining the households' opportunities to improve their housing conditions is their incomes. Under both scenarios the minimum monthly income that a three-member family should have to purchase a standard apartment (54 sq. m) at its own expense (covering 30 percent of the apartment value) and a mortgage loan (covering the remaining 70 percent), does not exceed 10,500 RUR (in 2003 prices) over the whole expectational period. The "all reforms implemented" scenario will allow reduction of the minimum household income requirement to 8,300 RUR in 2010 (in 2003 prices). Accordingly, the percentage of households with per capita income above the minimum level required for the purchase of a standard apartment by a three-member family ready to invest its own money and take a loan will grow from 9 percent in 2003 to 31 percent in 2010.

In 2010, assuming implementation of all reforms, Moscow, Saint-Petersburg, Yekaterinburg, Novosibirsk and Kaliningrad will have 35 percent of households with per capita income above the minimum level required for the purchase of a standard apartment by a three-member family ready to invest its own money and take a loan. In Vladivostok, however, this indicator will reach a mere 11 percent.

Fig. 6. Share of households with sufficient income to purchase the standard dwelling using a mortgage



With all reforms implemented, the annual percentage of households that will improve their housing conditions as a share of all households that want to improve them will grow from 1.8 percent in 2004 to 4.9 percent in 2010. Under the inert, the parallel figure in 2010 is 3.7 percent. Totally, in 2004 – 2010, housing conditions will be improved by 8.8 million households under the "all reforms implemented" scenario, and 7.1 million – under the inert scenario.

A household's opportunity to buy a dwelling depends also on the behavior of housing prices. All scenarios and forecasts show that over the whole analysis period prices on the housing market will increase above inflation. The sole exception is the scenario for implementation of all reforms, where prices stabilize over 2007 – 2010.

The scenario of all reforms implemented suggests the 1.6 times growth of real housing prices versus 2003. The peak of the price growth occur in 2004 – 2006 (1.45 times growth versus 2003) as a consequence of the increased demand for housing caused by expanded residential mortgage lending but still limited by the inadequate housing production. From 2007 housing prices are expected to stabilize. The inert scenario promises a constant 15 percent annual growth in real

housing prices. Accordingly, in 2010 the housing prices under this scenario may become 1.8 times higher than in 2003.

After implementation of all reforms, in 2010 real housing prices in Saint-Petersburg, Yekaterinburg and Kaliningrad will stabilize after no more than a 30 percent increased compared with the 2003 level. In Samara and Novosibirsk real prices of housing in 2010 will be lower than in 2003, and in Vladivostok price growth over the expectational period will be 80 percent.

In event of development following the inertial scenario, most of cities will see a steady growth in housing prices throughout the period. The highest growth rates are expected to be in Yekaterinburg (average annual growth of 20 percent) and Vladivostok (average annual growth of 13 percent).

7. Summary

The research conducted on effective housing demand and the capacity of the housing, housing production and bank home lending markets supports the following conclusions:

1. Households' want of better housing

The total household desire for additional housing in Russia is estimated at 1,569.8 million sq. m, or 17,767.5 billion RUR in terms of value (2003 prices). It is the total demand estimated in 2003. Considering that to some extent this desire can be satisfied on the secondary market, the need for newly constructed housing totals 1,291 million sq. m (14,612.6 billion RUR in 2003 real terms). This means that the housing construction market is expected to produce new homes in total volume equivalent 46.1 percent of the existing housing stock, which is now sized at 2.8 billion sq. m.

The demand for housing contingent on households who are capable to buy a home at current prices, including purchase partially financed with a loan, accounts for 25 percent of the total households' desired housing in 2003 real terms (378.6 million sq. m, or 4,285.9 billion RUR in 2003 real terms).

According to the household survey 39 percent of total households are satisfied with their housing conditions; 34.7 percent are ready to improve their situation by themselves (28.5 percent of them are ready to buy or build a home, and 6.2 percent are going to inherit, rent, swap, etc.); 26.3 percent can achieve their goal only with government assistance, including 7.1 percent who are relying on possibility to obtain a unit in social housing.

At least partial assistance of the government significantly increases the percentage of those who intend to improve their housing conditions by buying or building a home from 28.5 to 49.3 percent--at 1.7 times increase. However, in this situation 2.1 percent will be waiting for social housing or resettlement, 2.7 percent want to improve housing conditions by using other methods and 6.9 percentage points think they have no chances to live in a better home

For the study period, only 5.3 percent of respondents wanting better housing had enough savings to buy a new unit at current prices; an additional 15 percent could do so by raising a loan to cover their savings deficit. So, effectively 20.3 percent of households wanting to have a better housing (or 12.4 percent of total households) can purchase a home out of their own or borrowed funds.

2. Evaluation of opportunities and prospects for residential construction development

In the next sever years, housing production (construction) is expected to grow. Under the inert scenario the volume of completed construction will grow from 36.25 million sq. m in 2003 to 53 million sq. m in 2010 (if trends in residential construction and housing lending remain the same)

and up to 72 million sq. m if all reforms are implemented (growth of construction as a result of the growing effective demand, reduction of administrative barriers, and removal of other problems in the housing production sector).

Nonetheless, under all predicted scenarios the supply of housing continues to be inadequate to meet market demand. In addition to general factor of the time lag the for the construction industry to respond to sustained increased demand, construction output growth will be also restricted by limited capacity of the land market to provide serviced land plots and by the banking sector's unwillingness to provide loans to developers. Regions and municipalities anticipate that the coverage of the projected maximum housing production with available and would-be-developed municipal engineering infrastructure will range from 94.2 percent in 2004 to 77.1 percent in 2010. As for banks, currently they are ready to finance residential developers at level not exceeding 15 percent of what they need.

Under existing conditions the production of building materials can hardly restrain the residential construction industry from reaching its output targets. However, as soon as the housing construction starts growing in response to the growing effective demand, the targeted output of building materials will prove to be inadequate even in 2004. Survey of the existing capacities of building materials producers shows that in 2004 – 2010 capacity difficulties will mostly be encountered for production of cement, walling and heat insulation materials, while producers of roofing materials and prefab reinforced concrete have a good potential to fulfill even most cheerful plans of regions to increase the production of housing. It is essential to note that the production of building materials may be rapidly increased if necessary, and therefore these capacity constraints are unlikely to be binding even without increased material imports.

So, it is possible to conclude that the residential construction is today the main constraint for the development of an accessible housing market.

3. Evaluation of the residential lending development prospects

Optimistic projections suppose that banks will notably expand their retail home lending services (1.8 – 2.2 times annual increase in 2004 – 2006, and 1.4 – 1.5 times annual increase in 2007 - 2010). Pessimistic projections evaluate this increase at no more than 10-20 percent per year. According to banks' maximum estimates, in 2010 the amount of retail home lending will reach 274 billion RUR (in 2003 prices).

However, if a favorable legal environment is created for the mortgage securities market, home mortgage lending may increase to 742 billion RUR (in 2003 prices) in 2010.

With all reforms implemented and the mortgage securities market developed, the demand for housing loans may be fully satisfied starting from 2007. Then, the volume of residential lending in 2010 will come to 344 billion RUR (in 2003 prices), which means a 30 times increase as compared with 2003 (from 10.5 billion RUR to 344 billion RUR in 2003 real terms).

The level of finance of residential developers through borrowing expected by banks (131 – 137 billion RUR in a year) is far below developers' needs, accounting for mere 12 – 15 percent of the required level. In fact, banks have a potential to perform this type of lending at much higher level and could fully satisfy the residential developers' loan requirements starting from 2006 – 2007. But to actualize banks' potential into reality, it is necessary to create necessary conditions making this type of lending more reliable and attractive.

4. Main findings of predictive estimates of the housing market demand and supply

Best results are expected to be achieved if the “all reforms implemented” scenario is accomplished.

Under all scenarios and forecasts real housing prices will grow over the whole analysis period, except under the scenario of all reforms being implemented which promises to stabilize the price situation on the market in 2007 – 2010.

With all reforms implemented (in the residential construction and home lending sectors), real housing prices will become 1.6 times higher in 2010 versus 2003. The main growth in prices is anticipated to be in 2004 – 2006 (1.45 times growth versus 2003) due to the increased demand for housing driven by the development of the mortgage lending and the limited production from the housing construction industry. From 2007 real housing prices are expected to stabilize. The inertial scenario supposes a steady growth of real housing prices by 15 percent a year. In this case, the prices are expected to grow in 1.8 times by 2010 versus 2003.

Upon implementation of the full reform package, the satisfied demand for housing, i. e. the demand met by supply, will increase from 333 billion RUR in 2004 to 1.25 trillion RUR in 2010 (in 2003 real terms) totaling to 5.8 trillion RUR over the whole predicted period (in 2003 real terms). So, in 2004 – 2010 the share of the satisfied demand in the total demand will average 58 percent (with 36.2 percent in 2004, and 61.9 percent in 2010).

The minimum monthly income a three-member household should have to purchase a standard apartment in a multifamily building (54 sq. m.) using its own savings (30 percent of the apartment cost) and a home loan (70 percent) will not exceed 10,500 RUR (in 2003 real terms) over the whole predicted period and remain the same under all scenarios. The “all reforms implemented” scenario even makes it possible to lower this income requirement from 8,900 RUR in 2003 to 8,300 RUR in 2010 (in 2003 real terms). This will increase the proportion of three-member households with income exceeding the required minimum and sufficient to purchase a standard apartment at the expense of their own and borrowed funds from 9 percent in 2003 to 31 percent in 2010.

Implementation of all reforms will also increase the per capita quantity of housing provision from 19.3 sq. m⁹ in 2003 to 21.7 sq. m in 2010 (assuming that the population remains unchanged over the analysis period).

⁹ Estimated on the basis of *Goskomstat of Russia* data adjusted to results of the 2003 population census.